

COST AND MANAGEMENT

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LOSS

Official Journal of

***The Society of Industrial and
Cost Accountants of Canada***

JULY-AUG., 1956

Our day-to-day role is that of:—

- aiding administrators in solving specific management problems,
- devising and giving effect to better management methods, and
- providing such other advice and help as may enable busy executives to get quicker and better results than would otherwise be possible.

The general field in which we serve may be indicated
by some of the areas of our activity listed below.

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Cost and Management

VOL. XXX

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No. 7

COST REDUCTION

By L. A. STOCK 251

At present Cost Reduction Specialist with Canadian General Electric Co. Ltd., Guelph, Ontario, Mr. Stock was previously Manager of Procurement and Services of the Jet Overhaul Division of C.G.E. at Downsview and Production Manager of the Davenport Works in Toronto. He is a graduate in Accounting and in Industrial Management.

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A director of the International Public Relations Association and a past president of the Canadian Public Relations Society, Mr. Richardson has had wide experience in the public relations field. He is presently Public Relations Assistant with Northern Electric Company Limited, Montreal, Quebec.

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By V. A. RYDBECK 269

A graduate of the University of Illinois, the author is Manager of Sales Analysis and Planning for Heavy and Medium Apparatus Products in General Electric Company, Schenectady, N.Y. Prior to 1953, he was Manager of the Analysis of Planning for Electric Utility Sales. His experience includes four years in the engineering field, travelling, writing a considerable number of papers and giving talks on the subject. The present article is presented through the courtesy of the National Association of Cost Accountants.

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Our New President . . .



MR. M. HUGH BACON, R.I.A.

Mr. Hugh Bacon, R.I.A., of Montreal, Quebec, was elected president of the Society of Industrial and Cost Accountants of Canada at the Society's 35th annual Cost and Management Conference, held at Mont Tremblant Lodge, Mont Tremblant, Quebec.

Mr. Bacon, who is Comptroller of Consolidated Lithograph Division of Somerville Limited, Montreal has been a Vice-President of the Society of Industrial and Cost Accountants of Canada for the past three years. He was one of the founder members of the Society of Industrial and Cost Accountants of Quebec and is a Past President of the Quebec Society.

Mr. Bacon's long association with the Society and his wide experience in its work will enable him to give forceful leadership in the expanding program activities of S.I.C.A.

Editorial Comment . . .

THE DEVELOPMENT OF ACCOUNTANTS AS EXECUTIVES

It has been said that, if the proper study of mankind is man, the proper end of an educational or training programme is how to bring out the potentialities that lie within men and women.

In particular, what sort of education is necessary to bring out the human qualities that are needed to head up a great business or even a section or function of a great business?

Perhaps it is not an overstatement to say that the work of a business executive is wracking in its pressures, its complications and its continual changeableness. The necessity for education is taken for granted and the traditional answer is probably a little too obvious. For at least one hundred years, technical, vocational, and professional education courses have been available. In the last few years these forms of education have been intensified and subdivided so that they are available in almost every strata of society. For those willing and competent to study, the opportunities to do so are very broad.

The pointed question is, what does a president and functional vice-president need in addition to whatever technical or vocational business training they have acquired?

They need to supplement their training with judgment, or common sense. They need to be aware of the uniqueness of human beings as opposed to machines and processes. They must develop an awareness of the social setting around them. They must realize that the company is not only an economic unit devoted to earnings but a social force that may be good or evil in its time, dependent on the probity of its leader. The ethical profile of a company cannot be much more than the people who guide it.

In short, a business executive needs to develop character. A character obviously modified by contacts with forces other than vocational training.

Businessmen in the last few years have realized this problem and as a result, and perhaps a bit surprisingly, they have been placing much more value on a liberal arts education.

The emphasis here is not whether a liberal education provides the best training for executives, but an examination of the conditions under which the liberal arts can help prepare executives for leadership.

First of all, a liberal education is not the prerogative of the aristocratic elite of society. The power of drama, the beauty of music or the excitement of good conversation are the property of all. In the second place, the process is a life-long one. The real significance of much of

COST AND MANAGEMENT

the arts comes only to mature minds whose deepening experience with mankind and with work enable him to see and understand new relationships.

Where does this fit in with financial men, most of whom are trained vocationally, in a preeminently practical way and men who rather pride themselves on the utility and down-to-earthness of their academic experience?

Well, the mere reading of Sophocles' *Oedipus Rex* or listening to Beethoven's *Eroica Symphony* will not help in the construction of a balance sheet. The liberal studies have value only for those who seek them for their intrinsic ends. They will develop imagination. No man can remain unstirred or unchanged after hearing some of the great in music or drama classics. They will cause us to respect differences. The products of a genuine arts education will not look, talk, or think alike. Of course, if we distrust or hate differences or imagination, let us not waste time on a liberal education.

Do you not think that imagination and a hospitality towards differences are important in an executive?

Perhaps the whole affair deserves more attention than we think and in the busy round of physical activities more time than we think we can give. The considered judgment of many businessmen is that accountants are, in the main, unimaginative, hostile to differences and generally distrustful of all relationships other than dollars and statistics. If so, their chances for top leadership are slim.

Leaders in all ages have been characterized by their broad outlook, their sense of vision and their appreciation of human qualities and potentialities. They have been men of intellectual honesty and vastly concerned with mankind individually and as a whole. More often than not, such men have been deeply interested and life-long students in the liberal arts. The traditional background of classics, art, drama and music has been remarkably strong.

Business leaders face the same pressures and fundamental problems as leaders in other fields. Accountants, as well as other professional groups, might well ponder the advantages of leadership and personality growth through formal or casual education in the liberal arts tradition. Perhaps all those trained within the limits of vocational work need the influence of arts even if it is acquired outside the classroom.

The rewards may be subtle but are perhaps the most important element in the development of leadership qualities.

COST AND MANAGEMENT

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520 pages \$4.75
By Harold J. Wheldon
A complete course in Cost Accounting for the student, a reference book for the accountant, and an invaluable treatise for the modern executive who realizes that the control of costs is of primary importance to an efficiently organized undertaking.

THE COUNTING HOUSE PUBLISHING COMPANY

Thiensville, Wisconsin

C. & M. Round-Up . . .

By N. R. BARFOOT

LOOKING AHEAD

Mortgage money will be in short supply. The demand this year may exceed supply by 100 million. Higher interest rates . . . offering of mortgages by banks . . . and second mortgages available at as much as 20% discount reflect the immediate situation.

—o—o—

Higher car prices in '57 models can be expected. Steel and the high cost of '57 model changes will have their influence.

—o—o—

Capital Gains Tax finds little favour in Ottawa. However, speculations in land may attract the interest of the Income Tax Department as well as profits accruing from stock options and privileges.

—o—o—

Bigger Government budgets are almost inevitable. 1956-1957 estimates are up 168 million to 4,528 million. A National Health Scheme plus expanding government services may force the budget to 5 billion in short order.

—o—o—

Synthetic virus made from chemicals has been made in the U.S. Who knows but what they may finally create life in the laboratory. Certainly a first-class job has been done on providing the means for destroying it.

—o—o—

Helicopter service in 3 years between Canadian cities is a possibility. It will certainly solve the problem of quick transportation between urban centres not now serviced by airplanes.

—o—o—

U.S. OWNERSHIP?

Here are a few interesting figures on U.S. ownership in Canada:

| | U.S. | Canada |
|-------------------------------|------|--------|
| Petroleum (in billions) | 1.33 | .66 |
| Mining | .8 | .8 |
| Chemicals | 2.5 | 1.5 |
| Automotive | 2 | .5 |

Since 1900 U.S. investment in Canada has risen from 1.2 to 13 billion. Nearly half of this since 1945.

The influence of U.S. capital is concentrated in a few industries such as oil, mining, autos, chemicals and electrical goods.

Share ownership has increased from 35% in 1948 to 38% in 1953, but control has increased from 38% in 1948 to 43% in 1953. In mining and oil, control has gone from 37% in 1948 to 55% in 1953.

Many big U.S. corporations just don't sell Canadian equity in their Canadian subsidiaries.

C. & M. ROUND-UP

THE AGE OF COMPTROLLERS

A comptroller must combine a wide range of technical knowledge, a mature understanding of people and a well developed sense of balance in fiscal matters.

The rapidity with which technical knowledge is acquired may be genius and application but the other matters can be achieved only by experience.

A recent census by the Controllers' Institute shows the age groupings as follows:

| | |
|----------------------|----------|
| Under 35 years | 35% |
| 36-40 years | 29% |
| 41-45 years | 22% |
| 46-50 years | 9% |
| over 50 years | 5% |
| <hr/> | |
| Total | 100% |
| Typical age | 39 years |

Comptrollership responsibilities have been growing apace in the last few years so the optimum age is probably greater than the survey shows.

These figures do demonstrate that full fledged comptrollers with wide experience cannot be obtained under forty and the right age is probably 40-50 years of age.



PIPE LINE

The famous Trans-Canada pipe line is in progress. Here are a few facts:

Present stretch 575 miles from Alberta to Winnipeg.

Cost—75-80 million or \$118,000.00 per mile.

Work will be divided into seven or eight sections of from 60-80 miles each.

The big ditch will average 6' deep and 4' to 5' wide.

Landowners have been paid up to \$1000 per mile for land right of ways.

About \$1,000,000 worth of machinery and equipment is used.

Anywhere from 1,500 to 2,500 men will be employed.



PROFITS AND TAXES

Cumulative profits before taxes for 1955 for all Canadian corporations were 3 billion, an estimated 632 million (26%) above the preceding year's figures.

Income tax for that year was \$1,366,000,000 or 18% over 1954.



ON THE PERSONAL SIDE

Revolving credit plans are becoming quite popular. Both stores and consumers like them. The Canadian Retail Federation claims that advantages outweigh bad points.

COST AND MANAGEMENT

Women in industry hold 22.9% of the jobs. More are going into mining, construction, utilities and banking.

—o—o—

6.5 billion calls a year are made on the telephone by Canadians. As a matter of fact we make more calls per capita than any other nation. Average cost for long distance and local about 51½¢ per call.

—o—o—

Gold bricks may now be hoarded if you so wish. All restrictions surrounding gold have been removed. You are now free to buy gold for export or safe-keeping.

—o—o—

80 millions worth of cosmetics will be bought by women this year. 5.2 million Canadian women over age 15 are the market.

—o—o—

Automatic electric alarm clocks are in vogue. Forget setting them since they sound every 24 hours without resetting.

—o—o—

Business reports are as varied as the people who read them. These are the opinions of various executives:

The face-to-face type—verbal reports only.

The one-page school—limits to 8½ x 11 double-spaced effort.

The summary type—everything summarized but plenty of supporting data in case it is needed.

The general principle approach—reports should, under no circumstances, turn into sales presentations, but on the other hand must not be coldly impersonal.

PERSONALS

George C. Kendall, C.A., a student member of the Montreal Chapter, has been appointed a Director of Kendall & Savage Limited, a firm of business and Management Consultants.

H. B. Hector, R.I.A., of the Hamilton Chapter, has been elected to the Board of Directors of Wagstaffe Limited, a wholly owned subsidiary of Canadian Cannery Limited, Aylmer Products.

F. A. Lewis, a general member of the Ottawa Chapter, has been promoted to the position of Chief Cost Accountant of the E. B. Eddy Company, Hull, P.Q.

Books in Review . . .

CORPORATION FINANCE IN CANADA

By C. A. Ashley, B.Com., F.C.A., Professor Commerce (U. of Toronto), and J. E. Smyth, M.Com., Associate Professor of Commerce and Administration (Queen's University). The MacMillan Company of Canada Limited, Toronto, 1956. p.p. 207. \$3.95.

Reviewed by GEORGE MOLLER, D.Jur., C.A., R.I.A.

There should be little doubt that more than a superficial knowledge of corporation finance is required by the industrial accountant who aspires to executive rank as witnessed by the fact that "Cost of Capital" was, e.g., the subject of a report prepared by the Finance Management Committee of the New York City Control of Controllers Institute (see May 1956 issue of "The Controller").

Selected chapters of corporation finance have, therefore, been included in the programme of the Executive Development Course sponsored by our Society. It may be hoped that corporation finance will be taught as a special course for graduate R.I.A.'s in the not too distant future instead of being treated as part of the Management Accountancy lectures.

The publication of a Canadian text book is, therefore, a most welcome addition to the material to which the lecturer in the Executive Development Course will be able to refer in future.

The book is a revised edition of "Corporation Finance" originally published in 1947, with increased emphasis on Canadian companies and developments.

The book is written in a lively style and provides the reader with a good understanding of the basic ingredients of corporation finance in Canada. Even for those who have studied this subject using one of the elaborate American texts (e.g., "Corporate Financial Policy" by Guthmann and Dougall), the emphasis on the Canadian aspects will make reading of the new issue worth while, adding interesting specific information to the reader's knowledge.

The contents lead from the forms of business organization and the formation and control of companies to the discussion of shares, borrowing and the financial structure.

Further chapters discuss the Capital Market, the Stock Market, and the Management of Funds of the Corporation.

Profits and Dividends, Scale of Operations, Combination and Monopoly, and Liquidations and Reorganizations, complete the discussion. The final chapter, under the heading "Summing Up" is an interesting parallel to the final chapter of the mentioned Guthmann and Dougall text and could very well carry the latter's more pretentious heading "Social Aspects of Corporation Finance".

More or less at random, the reviewer wishes to mention specific items of interest as, for instance, the paragraph on "cumulative voting"

COST AND MANAGEMENT

which was introduced in Canada as recently as 1953. The underwriting of share issues is neatly explained (p. 77) and the authors do not hesitate to mention critically certain abuses, e.g., the promotion of investment trust companies for the purpose of disposing of bonds by certain dealers who wish to unload underwritten securities of which they could not otherwise easily dispose. The authors draw widely on many sources of information referred to in footnotes and handily listed in an appendix "Suggested Reading" covering seven pages. Reference is even made to unusual texts, e.g., George Bernard Shaw's "The Intelligent Woman's Guide to Socialism and Capitalism".

The presentation is in many points original. In the chapter on "The Management of Funds", e.g., the difficulty which arises from the lack of information on the status of bank balances *during* the year, particularly in companies subject to seasonal fluctuations, is discussed. In this connection, the authors say:

"This is an excellent illustration of the difficulty of trying to analyze the finances of a company by making an examination of accounts rendered at yearly intervals; a moving picture of what may be highly dynamic cannot be appreciated by looking at an annual snapshot". (p. 105).

In the final chapter already mentioned, the authors try to establish that profit from business ownership is not a primary incentive to the majority of top executives in our largest corporations. They try to support this statement by pointing out that many civil servants apply themselves with genuine devotion to their work and "the profit incentive is inadequate to explain why university professors write text books".

The chapter on "Combination and Monopoly" contains a concise description of the Combines Legislation in Canada showing the position of Canada as being less acute than in the United States but more serious than in the United Kingdom.

A number of appendices deserve mentioning. A sample Application for Incorporation of a Company Under the Companies Act appears in this section of the book. The appendices contain very interesting Notes on Depreciation, Notes on Receivership of Abitibi Power and Paper Co. Ltd., and a Tabulation of Quick Ratio and Current Ratio for Sample of Canadian Companies.

A short Index helps the search for information. No reference to Return on Investment or Return on Capital Employed appears in the index. These terms will perhaps be included in the next edition. The authors deplore the dearth of published figures of profits and dividends for an aggregate of Canadian companies for a longer period (p. 120).

Altogether, the volume is a desirable, inexpensive addition to the Industrial Accountant's library.

Cost Reduction*

By L. A. STOCK,
Cost Reduction Specialist,
Canadian General Electric Company,
Guelph, Ontario.

In today's competitive market, the greatest manufacturing economy is called for if a company is to be successful. In the following article the author outlines a streamlined cost reduction programme for obtaining maximum efficiency in manufacturing.

ARE YOU leading in your business or just out in front, or in other words, "It's time for a change in our thinking". The easy money days have disappeared. The seller's market has changed to a buyer's market—competition has become keener and your customers are looking critically at prices. Quality is good, but costs, in many cases, are too high and if you are to maintain your market participation and meet ever increasing competition, you must lend every effort to obtain all possible economy in your manufacturing setup.

It has been said that the manufacturer who waits for the customer to beat a path to his door, generally finds the wolf there first. To be successful, a company must fill an economic need and provide the public with what it wants, when it wants it, and at a price that it is willing to pay.

In a competitive market, the lowest cost producer can generally maintain the most favourable position. It is, therefore, essential for a company to operate at the lowest possible cost and the degree to which it is successful in this regard, is a measure of its operating effectiveness.

A cost reduction programme must have the blessings and active support of management and definite responsibility should be allocated to responsible personnel to ensure the co-operation of all groups. Action teams or committees are organized in the various areas, with each leader or supervisor spear-heading the programme in his own area or product component. The programme requires constant supervision, stimulation, and leadership. It is the job of every leader or supervisor to preach the doctrines of cost reduction, to promote cost consciousness, to provide objectives for each sub-unit or product component in the area, to measure progress periodically, and to provide stimulation where necessary.

Industry as a whole has recognized the merits of such a programme and many large companies are engaged in such activities. In most cases, their organizations are definitely similar.

The organization and procedures must be streamlined so that maximum efficiency can be achieved with a minimum of red tape.

What Is A Cost Reduction Programme?

Everything done in a business to make it more efficient and profitable could be called a cost reduction, or profit improvement activity.

*An Address delivered to the Grand River Chapter of the Society of Industrial and Cost Accountants on April 18th, 1956.

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But extremely broad activities that are everybody's job could become nobody's job. The concept of a cost reduction programme in modern business refers to a definite activity. Its objectives are to stimulate, evaluate and assure speedy adoption of ideas and methods that will make a specific cost saving. The processes of lowering costs may be classified under two main headings—**COST REDUCTION** and **COST CONTROL**. These two functions are closely related and it is often difficult to separate them.

COST REDUCTION may be defined as the process of establishing new standards of cost resulting from a change in method, design, elimination of materials, labour and expense. For example—a change in design could constitute a cost reduction. While a general decrease in the market price of materials will lower operating costs, it does not constitute a cost reduction in cases where there has been no change in method, as your competitors will also avail themselves of these savings, giving you no competitive advantage. In other words, unless the reduction in cost gives you an advantage over your competitor, it is not a cost reduction.

COST CONTROL is the process of maintaining the actual operating performance at or near existing standards. This may be accomplished by the budgetary control of expenses, inventory control, quality control, control of manufacturing losses, control of direct labour, etc. Cost control is the normal function of every supervisor. Thus, a supervisor who reviews a proposal for the purchase of a \$5,000.00 machine and substitutes a \$4,000.00 machine has not saved the company \$1,000.00. It could be said that he has simply refrained from unnecessary expenditure and has thereby exercised good cost control.

Cost reduction ends with the establishment of a new standard, while cost control begins at this point.

A cost reduction programme has four major elements—

1. Budgeting to determine the programme's financial objectives and scope and the responsibilities for achieving these objectives.
2. Organizing to establish the work and teamwork required to meet the objectives.
3. Developing new projects to create a continuous stream of new ideas and programmed for reducing costs.
4. Stimulating to encourage and measure the cost reduction efforts of all members of the organization.

I. Budgeting

A tough well-defined target is essential for the programme's success. This cost reduction budget is top management's tool to define for all key supervisors the job to be done and the responsibilities and accountabilities for getting it done.

COST REDUCTION

How Is The Budget Prepared?

This is a rather difficult question and one for which I feel you would all ask a simple answer. I do not know of any accurate scientific way of establishing over-all objectives that can be applied to any business. We have had cost reduction activity in our operations over the past few years. Over these years history has indicated that we normally expect to attain six percent of our factory cost. You can all appreciate that our history was compiled in an old plant located in the city of Toronto, where we were working under very adverse conditions. Here in Guelph, however, with a new plant, new equipment and our material flow designed for effective production, we have raised our sights where we are now shooting for ten percent of our factory costs.

Our ten percent objective can be attained only through the reduction of those elements of factory cost which are controllable.

(a) *Direct Labour*

This element of cost can be reduced through improved methods, changes in design, increased speeds and feeds of machinery, changes in materials, mechanization, etc.

(b) *Direct Material*

Reduction in this element of cost is attained primarily through production design changes and through negotiated price reductions in material costs by substitutions in cheaper materials.

(c) *Indirect Manufacturing Expenses*

This is a very interesting element and on normal cost reduction activity we only give credit to the cost reductions for the indirect expenses directly related to our direct labour dollars. By that I mean those costs incurred by the company for Workmen's Compensation, Unemployment Insurance, Vacation Pay, payment for statutory holidays, cost of application of the company's health, life insurance, and benefit plans, etc. There are other elements of I.M.E., such as consumable materials—Hydro, etc.—which may be reduced because of implementation of a cost reduction, and we do allow those expense items when they can be directly tied in with the reduction of direct labour.

(d) *Product Engineering Cost Expense*

In this area the only time a cost reduction claim is acceptable is when through work simplification we can definitely prove the labour content required for drafting and engineering has been eliminated or reduced to the point where an indirect person may be removed from the payroll, then we permit this to stand, and if we have eliminated the dollars of payroll we likewise have eliminated those perquisites associated with payroll dollars—the same as in I.M.E.

The cost reduction budget is prepared at the time our other budgets for sales, output, inventory, engineering, commercial and administrative

COST AND MANAGEMENT

expenses are established. Another approach to the establishment of a cost reduction objective would be that after you have consolidated your budgets down to a point where you know what your profit on the sales dollar should be you must decide on the best action to take. You can either increase your selling prices, reduce your costs or embark on a combination of both.

We will deal only with the cost reduction phase and attempt to outline the approach. While we have talked of establishing our budget based on what we have attained historically, our objective is not to live in the past, but rather to make history for the future and in many cases the objectives we have established have been set up with one eye on the past and the other, after looking at the budgeted profit on the sales dollars on the year, ahead and what management is expecting of the operations from the profit viewpoint.

After acceptance of the over-all plant cost reduction objective, we then break this down among the various sections of the organization on the basis of the amount of influence and responsibility each section has for the various elements of product cost. For example, engineering, purchasing and value analysis will achieve most of the reductions in material costs because these groups are in the best position to influence these costs. In this manner, a target is set for each segment of the organization to work so that each would share equally in the energy which must be exerted in order to achieve the cost reduction objectives.

II. Organizing

The objective of organizing for cost reduction is to create teams for directly applying a company's know-how to the problem of reducing cost, for example:

- (1) The over-all cost reduction programme is guarded by a central steering committee consisting of—Plant Manager as Chairman, Cost Reduction Specialist as Secretary, Manager—Engineering, Accounting and Manufacturing Engineering.

Functions:

1. Establish policies.
2. Suggest company's cost reduction budget.
3. Delegate action when and if necessary.
4. Meetings called at discretion of Chairman.

- (2) Normal organization channels are as follows:
Administrative Committee Organization composed of Manager—Engineering, Manufacturing, Sales, Accounting and Relations.

Functions:

1. Set up individual sub-unit cost reduction budgets.
2. Stimulate the cost reduction effort.

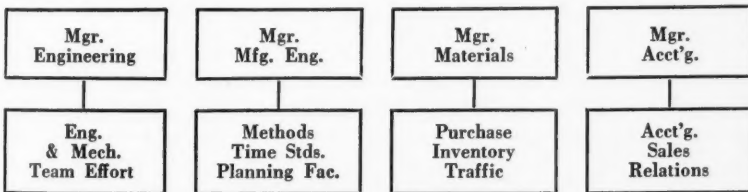
COST REDUCTION

3. Develop a knowledge of, and an interest in the cost reduction programme within their sub-unit.
4. Control individual projects to ensure they are investigated and completed by the required dates. This will include:
 - (a) Projects proposed by the sub-unit involved, regardless of the area to which the investigation has been assigned.
 - (b) Projects being investigated by the sub-unit, regardless of their area of origin.
5. Assessing the relative merits of individual projects and recommending investigation or rejection where necessary.

Standard Agenda For Meetings:

1. Review of progress.
 2. Discussion of projects on the agenda.
 3. Discussion of new business.
 4. Meetings to be held monthly.
 5. Minutes to be prepared and forwarded to cost reduction Specialists.
 6. When convenient, cost reduction Specialist to attend meetings.
- (3) Direct supervisory channels are supplemented by use of teams to attack broad problems that no individual can adequately handle.

Product Cost Action Team Organization—(Components of the Product) Cost Reduction Specialist (reporting to steering committee).



Note: Product Action Teams are made up of Engineers, Draftsmen and Manufacturing Supervisors—approximately 3 people to a team, utilizing other services when required.

(4) Value Analysis

Few people are familiar with the fundamentals of value analysis. Value analysis is not a substitute for cost reduction. It is a cost reduction technique relating cost to the function or service, or operation purchased by that cost.

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It is a well-informed, creative study of every item of cost in every part, or material, taking into account other materials, newer processes, newer designs. It focuses the Engineering, Manufacturing and Purchasing techniques on one objective—equivalent performance at lower cost.

Every material, every part, every operation
must pass these tests

1. Does its use contribute value?
2. Is its cost proportionate to its usefulness?
3. Does it need all of its features?
4. Is there anything better for the intended use?
5. Can a usable part be made by a lower cost method?
6. Can a standard product be found which will be usable?
7. Is it made on proper tooling—considering quantities used?
8. Do material, reasonable labour, overhead and profit total its cost?
9. Will another dependable supplier provide it for less?
10. Is anyone buying it for less?

Responsibilities:

- a. Improvement of design
- b. Improvement of manufacturing processes
- c. Substitution of materials or parts for more economic alternatives.
- d. Standardization

Administration Of The Cost Reduction Programme

The cost reduction programme involves continuous effort comparable with production and sales programmes—not merely a periodic fireworks' display. One person is assigned as a spark plug—a specialist who plans, organizes, measures and integrates the activities—usually the secretary of the central steering committee. His duties are to establish and maintain means of regular reporting on the performance of each supervisor or team and each item relative to their cost reduction budget; assist in establishing prompt contacts among other supervisors or teams; getting cost reduction projects adopted in minimum time; arrange for publicity and programme stimulation; and set an example by finding projects for cost reduction effort. He is responsible for receiving and acknowledging all proposals, checking and recording each proposal, assigning someone the responsibility for putting the proposal into effect, following its progress closely, and finally reporting the results.

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Briefly the procedure is as follows:

- (a) Monthly meetings are held by each section or action team in order to make plans to meet the objectives. The cost reduction specialist receives a copy of minutes of all meetings and takes action where necessary to help obtain the desired result.
- (b) As a result of the planned programme to achieve reduced costs, cost reduction proposals are submitted to the specialist. He checks the proposal to determine whether it is original, practical and economical.
- (c) The proposals are then sent to the various areas or teams to be put into effect by a specified date.
- (d) After the proposal is put into operation, the specialist is notified. He in turn calls for the annual savings to be audited by the product cost unit.
- (e) The savings are then credited to the area or team who originated the proposal.
- (f) Monthly reports are issued to management, supervision and teams to indicate the progress which is being made relative to the budget.

Cost reduction activity will require enthusiastic effort on the part of all key functions in a company. Marketing, engineering, manufacturing, finance and employee relations are all in a position to achieve substantial reductions of cost. The chairman of the steering committee should be the top man in the plant and be 100% behind the programme.

III. Developing New Projects

A cost reduction programme must first select projects, then generate a continuous flow of significant, new cost reduction ideas, and concentrate its efforts on the various areas or product components that will pay off.

The first step is identification of major expenditure items requiring cost reduction analysis.

The approach followed here is comparable to ABC inventory control. A large part of the cost dollar is confined to a small number of elements—75% of the dollars in 15 or 20% of A items, for example. A second group, B items, may represent 30 percent of the items and 15 percent of the dollars. The final group, or C items, may be 50 or 60 percent in number but only 5 or 10 percent in dollars.

A good cost reduction programme seeks to identify first the A items, then the B, and only then the C. Are the A items in handling, spoilage, packing, machining, maintenance, finishing, or in plating? The company's financial group gives the steering committee these important answers.

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The expenditures' trends are then reviewed. The A items that have had no recent substantial reductions are given top priority.

Basic Approaches

With this information available, basically different approaches will be used to develop specific cost reduction projects.

Shop cost reduction involves the development of projects for attacking those day-to-day elements that are under the control of front-line foremen and supervisors.

We often hear the expression, "Necessity is the mother of invention". Don't wait for the necessity. What it boils down to is to recognize the need. Remember there is always a better way. Ideas must be developed regardless of interchangeability, material, specifications, etc. Frequently ideas can and do come from developing another idea which obviously would not work. Quite often we hear the statement "it won't work"—and this may be very true. It probably won't work the particular way that individual is thinking of doing it. It has been said that nothing is impossible—some things are just a little more difficult. The following steps should be used in dealing with cost reduction projects.

1. Definition or realization of problem.
2. Search for the correct method or solution.
3. Evaluate in dollars.
4. Put into effect in minimum time.

The mental and physical labour of producing cost reductions is reduced to a minimum only by planning beforehand what to do, how to do it, and when. I feel quite sure if you follow this rule as an organized team you can succeed in meeting your objectives.

Product and operations cost reduction involves the development of projects for reducing those broad costs that may require teamwork, long-range effort and management attention.

Every area of a business is vulnerable. Nothing should be left unchallenged.

Here are a few current examples of how this works:

Box, Pack and Ship—An electronic plant redesigned its packaging of radio tubes to take advantage of mechanical packing equipment, saving \$19,000 a year, and allowing 18 out of 24 people to be placed on other more productive jobs.

An appliance manufacturer uses automatic packaging machines that will save \$21,000 a year.

Quality Costs—These are recognized as one of the major cost elements in modern business. Quality control programmes are not only effective in improving the quality of the product but also as tools

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for minimizing quality costs. A metal products company completely renovated the inspection element of its quality control programme, placing inspection on a preventive rather than an after-the-fact basis. Manufacturing losses were reduced by more than 50 percent, while inspection costs were cut by almost one-half, \$90,000 a year.

Materials Handling—An aircraft manufacturer will save \$225,000 this year by an outstanding example of cost reduction. The company installed power tow chains and tow cars to deliver materials to the receiving dock, rail conveyors, and racks to carry materials through to inspection and to stock, and general conveyors to carry them to the point to use.

Non-durable Tools and Shop Supplies—One large business spends \$72,000 a year for gloves and \$1,225,000 for shop supplies—a potential field for cost reduction, with the company anticipating a \$100,000 annual saving for its efforts.

Paperwork—The man who first suggested "don't say it, write it" might be startled to see how thoroughly his suggestion has been heeded by modern industry. Paperwork costs represent millions of dollars. By means of procedures analysis, office methods improvement, and other techniques, the cost reduction efforts of many companies are being concentrated on reducing them.

Maintenance—As more and more mechanized equipment is installed in line with the current trend, more and more maintenance effort will be required. Much cost reduction effort is profitably being employed in this particular area.

Automation—Opportunities for cost improvement are being recognized in a number of companies through automation.

Plant rearrangement; power, heat and light conservation; recovery of waste materials, water purification; and inventory reduction suggest a few of the many additional technological areas in which cost reduction projects are being put to work.

Every item of cost must be questioned. Develop an inquiring mind, and above all—don't be stopped. There are many stumbling blocks that you must consciously look out for as most people respect them.

These are the things to look for:

1. We always make this part ourselves, nobody else can make it good enough.
2. We have one vendor that has been doing that job—we wouldn't think of starting with a new one.
3. It's patented—we can't use it.
4. We can't afford the tooling.
5. It won't pass C.S.A. standards.
6. It won't work.

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7. It would cost too much.
8. It comes from our parent plant so it should be all right and so on.

These are common stoppers, but there are hundreds more. Many of the roadblocks are presented with little thought and they are merely platitudes.

IV. Stimulating

It is not easy to create new cost reduction ideas and then follow them through. After all, the great majority of cost reduction projects are carried on by personnel for whom cost reduction is an additional element in their various jobs—engineering, drafting, production control, accounting, manufacturing, quality control, etc.

These employees do good cost reduction work because they want to, because they know it is important and that good results are expected, and because they believe that these good results will be recognized. This positive attitude toward cost reduction will be assured on the part of all company employees by stimulating four key factors:

The right atmosphere
Wide participation
Good communications
Individual recognition

Atmosphere—As previously stated real enthusiasm for cost reduction and willingness to devote time to the activity must begin with top management. Only in this way can enthusiasm thread its way through front-line supervision to all plant employees. Management deeds, not words, set the cost reduction climate.

Participation—The desire of employees to feel "part of it" has been long appreciated as an essential element in their effectiveness. Job security budgeting, everyone-has-a-job organization, emphasis on widespread new project development gain must result of this participation in a cost reduction programme. These steps are not mere perfunctory door-opening gestures on the part of top management. A company's greatest cost reduction resource is the know-how and skill of its employees—a resource effective in direct proportion to the extent that it is applied to their individual jobs.

Communications—"What's going on in cost reduction?" is a question that can best be answered by a man's boss on a regular, voluntary and factual basis. A plant's newspaper, poster campaigns, suggestion system and information meetings are valuable but supplemental to, rather than a substitute for, the face-to-face supervisor-employee relationship in cost reduction.

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Recognition—Individual recognition for a job well done is perhaps the most important factor in cost reduction stimulation. Cost reduction accomplishment should be a major consideration in decisions relating to salary increases and promotions to bigger job assignments. But these more spectacular rewards can never do the total job. Genuine praise, a handshake from the boss, conspicuous posting of performance charts showing individual contributions—all are extremely important in the experience of many cost reduction programmes. Other companies find special events valuable.

An appliance organization carries through much the same plan by awarding points. At the end of the year an auction of sporting goods, household appliances and other items is held. Bids on these articles are made in proportion to the number of cost reduction points that individuals hold.

Cost Reduction's Contribution

An effective cost reduction programme is a major company need for growth, health and profitability in the severely competitive economy of today.

A cost reduction programme properly budgeted, adequately organized, effective in new project development and enthusiastic in stimulation will become one of a business' greatest assets. Such a programme will permeate the entire company with an attitude basic to cost improvement in Canadian industry. There is always a better way—and your company can find it.

FOR FURTHER READING

- COST REDUCTION AND CONTROL**, by Gerald G. Fisch, Cost and Management, July-Aug. 1955.
- A COST REDUCTION PROGRAMME**, by Pierre W. Hogle, A.M.A. Manufacturing Series No. 209.
- COST REDUCTION IN ACTION**, by W. L. Snyder, Cost and Management, June 1955.
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Public Relations* . . .

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Though the public relations programmes of modern industry are new, stresses the following article, the principles governing human relations remain the same. Public relations programmes, therefore, must be motivated by humanitarian objectives if they are to be effective.

SINCE PUBLIC relations was developed as a planned adjunct to business, not a single new technique of dealing with people has been developed—as far as I know. We have had all of them from time immemorial. All the things that we are trying to do were written down long ago—and many of them in the Bible. Many sociologists, philosophers and others have given voice to them over the intervening years. Public relations is not a new thing. The planned public relations programmes of industry—they are new—but we can consider that we have had public relations on this earth ever since we have had people.

Popular Fallacies About Public Relations

There are a number of misconceptions about public relations. One is that you must have a planned programme on the part of a business organization—in order to qualify. Not necessarily. You have public relations—and you have a public rating of good, fair or poor, or something in between, whether you have a public relations department or not.

You cannot have a squirt of public relations to put out a fire—or to make something grow. Public relations does not come in squirts. A planned programme needs to be continuous in order to be effective.

You cannot use public relations to bolster something which is of doubtful value—or to whitewash something which is not in the public interest. In order to use public relations adequately you must have a background of something which is good.

A planned public relations programme in an industrial organization cannot be divorced from the commercial operation. You cannot budget so many dollars for public relations and say—"Let us throw these into the bright blue sky and care not what happens". Accountants, and other stern faced people are not interested in such happy philosophies. It is reasonable to expect a return for the dollars spent on public relations.

Public relations is not a profession nor an exact science. Industrial organizations with similar ends have entirely different methods of planning their public relations effort.

When you listen to someone talking on public relations you should remember that they are most likely talking from their own experiences

*An address delivered at the March meeting of the Cornwall Chapter of the Society of Industrial and Cost Accountants.

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on P.R. and that those experiences will differ from those of other P.R. people.

Public relations is a fascinating and challenging business. It calls for ingenuity and adaptability.

Many people have the qualities that are needed. Not a single P.R. executive known to me started off in P.R. They all started off somewhere else. In the Canadian P.R. Society we have ex-newspapermen, preachers, engineers, accountants, advertising men, salesmen and many others. Little wonder, with this heterogeneous group that there are some differences of opinion. The amazing thing is that there is so much agreement.

Now let me go back and consider individually some of these statements I have made about this interesting business of public relations.

What Is Public Relations?

I am not quite sure that the use of this term public relations—particularly when it is used in connection with industrial organizations—is a completely adequate description. There is a possibility that misconceptions arise because of the use of the term.

Public implies people, and relations implies communications or reaching or being with. When you get people together under any kind of circumstances communication procedures go into effect. As a result of the effectiveness or non-effectiveness of these communications procedures standards of public relations are established.

However, the name public relations is established now and we shall have to stay with it. It may however, have been the cause of some misunderstanding. People ask this question of public relations—"What is it"?, and when you cannot give an answer in twenty-five words they are disappointed.

In the Royal Bank Letter of February 1950 there was this reference to P.R. "Public relations is about nine-tenths doing and one-tenth talking, though its philosophy is made up of many ingredients including sociology, economics, psychology, communication and other knowledges".

One of the problems of public relations is that it is not an exact science. Cost Accounting is an exact business. Two and two will always make four at any time and under all conditions. Chemistry is an exact science. A combination of hydrogen and chlorine will always be hydrochloric acid at any time and under all conditions.

In public relations you are dealing with people and you cannot always predict how different groups of people will react to similar communications procedures.

Let us take this thought. You cannot have public relations until you have people who are affected by some communication procedure.

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But a man is related and is relating to other people throughout all his years from the cradle to the grave. Everything that he does in his relations with other people affects his personal public relations, his acceptance as an individual, his domestic life, his community life and his business life. Now if this one man joins up with others in a group to do something—the same process goes into effect. You can change that group to mean corporation, trade association, professional association or government or what you will. Whenever people are together at any time—public relations are in effect.

There are hundreds of definitions of public relations but if a man spent several years considering them, and then crystallized them and then refined the balance he might reach the conclusion that public relations was life—all of life—the whole business of living—and that cannot be adequately described in twenty-five words.

Advantages Of A Planned Public Relations Programme

I previously made this statement that an organization has public relations, and a public rating, whether there is an organized programme or not. Question—why have an organized programme? What value—what return is there from an organized public relations programme?

The answer might be this—an organization makes contact with the public in countless ways, the better those contacts are the higher will that organization be in public esteem—and because public esteem is highly desirable for the future of the organization—then obviously a planned programme of public relations is of advantage.

There are two broad avenues of communications available to the department—words and pictures. The word in all its forms written and spoken—and the picture in all its forms—in advertisements, as illustrations to go with the written words, in movies and in television.

Within that general framework the P.R. man operates.

It sounds simple but occasionally a complication arises.

An awareness of the value of public relations can make life better for an individual, a group of individuals or an industrial corporation.

About the year 400 B.C. a Greek General said that it is far easier to march up a steep hill without fighting than along a level road with enemies on each side. This is a very interesting observation as far as public relations is concerned.

In a planned public relations programme arrangements are made for certain things to happen and at the same time steps are taken to avoid other things happening.

One facet of public relations is the avoiding of conflict. Conflict, friction and misunderstanding are costly and wasteful. If we can go through life without fighting, either uphill or any other way, we shall have more time to devote to constructive purposes.

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What we are trying to do with our organized public relations is to put the golden rule into practice in our everyday affairs. It is not as easy as you might think for several reasons. One reason is that we are not quite as civilized as we think we are.

We like to think that we are civilized people. We speak of the tremendous strides we have made in the recent past—and it is true. The problem is that in certain compartments of our minds we have been racing and in others we have been standing still. We have been able to adjust our thinking to make use of the new and modern communication and transportation facilities, we are constantly making use of new devices to make life easier and pleasanter, we are talking of automation and of nuclear energy for peaceful purposes, we can accept the fact that in the near future an artificial satellite will be shot into the stratosphere and we are even willing to consider the possibility of space travel.

Yet many of the prejudices which existed in the world when you were born are with us still. Certain prejudices are transmitted from generation to generation—so that a man might have no more reason for disliking another group of people—other than the fact that his father disliked that group of people. I am sure that you will find it easy to think of such instances. Some of the troubles which now plague the world are due to transmitted prejudices.

It is not easy to remove a prejudice. A man has to try with the idea that there is fun in succeeding in being broad-minded, and that his life will be fuller because of it. All the prejudices that beset mankind are allergic to truth. The mark of an educated man is his willingness to expose pet prejudices to it.

Sociologists, psychiatrists, psycho-analysts and others are constantly concerned with this problem. They look forward to the time when the compartment of our minds which deals with human relations will have caught up with the compartment that deals with the acceptance of technical advances.

It is an ideal of course, but it is an ideal that is worth working for. In the meantime we have to accept conditions as they are—and do the best we can with what we have.

Actions Speak Louder Than Words

Now I want to return to two earlier points where I said that in order to use public relations adequately you must have a background of something which is good—and then to the quotation from the Royal Bank Letter which referred to public relations as being nine-tenths doing.

Suppose a man, fully qualified, decided to make a career in public relations, and looked round for a company with which he might

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become associated. What kind of characteristics and background would he look for.

He might consider these things:

A company that had been in business for a sufficient period of time to be well established.

A company with a name that was favourably known.

A product that was considered to be in the public interest.

A company that was known in the community as a good place to work.

A company, preferably, that had a good history of industrial relations.

Now as I list these qualifications you will realize that all of them are the product of time. Public relations is not the result of something that you are saying today. It is the result of what you have been doing in the past.

This organization—this mythical organization to which I have referred has been doing things for a long period of time which makes for public acceptance—and if you have public acceptance to begin with public relations is not a major problem. Public relations is nine-tenths doing.

Having given you this list of desirable characteristics it will be easy for you to envision circumstances in which the practice of public relations would be much more difficult.

My purpose in listing the desirable characteristics was to give you the idea that public relations is more greatly governed by record and performance in the past than words in the present.

There is a direct tie, or there should be, between the public relations department and the commercial operation of the company.

There is only one reason why people establish a business and that is because they hope that business will make money. They hope—because of the goods or services which they intend to supply—that they will be able to produce a return on the investment. Everything that they do therefore—should help to achieve that desirable end.

They rent space or put up a building, buy machines, hire people, and then let customers know, in a variety of ways, that this particular commodity is for sale. At the beginning there is one desirable quality which they will not have—and that is public relations. They can't possibly have public relations because they haven't existed before.

Good public relations, which is vital to their future growth and progress is now in their hands to make. In order to have good public relations a company has to *be* something. It has to have a policy of dealing with employees which is accepted as reasonable and fair. Good industrial relations come because of pay, working conditions, opportunities for promotion, suggestion plans, benefit schemes, pension plans

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and so on. In addition they must have a plan and all the things they do under that plan should be in the direction of making that company well and favourably known so that they will do more business. A public relations department must justify its existence.

What do public relations departments do?

Let us list here a few activities which come directly under the heading of public relations.

Scholarships, fellowships, bursaries, company contributions to charitable organizations or hospitals, civic auditoriums, hockey rinks, windbreakers for hockey or baseball teams, employee publications, customer publication, movie shows, door prizes for social gatherings, calendars, desk pads, school supplies, plant visits, the loaning of company personnel to government, civic associations or educational groups, booklets commemorating anniversaries, jubilees, coronations, and so on, the supplying of committee members for trade associations or for charitable drives, the supplying of speakers for assemblies, graduations, conferences, conventions and meetings.

All these things, and many others, come under the heading of public relations.

I have not mentioned advertising in this list but advertising is definitely a part of the Public Relations operation—and so is publicity.

In general then there are four main ways in which the public relations of an organization might be affected and changed—industrial relations, advertising, publicity and public relations proper—thinking now of the list I have just read to you.

Conclusion

My experiences in public relations have taught me many things but there are two in particular. The first is that you need patience in dealing with people. It is not a profound thought but it starts to have a meaning when you follow it through to the point where you realize that people might also need patience in dealing with you.

The second thing that I have found out is this—that when you are caught in an uncontrollable circumstance—there is always a salvage value to something. All is not lost. The world is not ended. There is always something to be learned. There is always something to be saved.

All kinds of people are in public relations. They are not a breed apart. They have the same attitudes, aspirations and emotions as other people. When we change the constitution of the Montreal Branch of the Canadian Public Relations Society we can have just as spirited and forthright a discussion as might a group of ministers, cost accountants—or other high minded people.

These differences used to concern me because they made a slight rift in that idealistic cloud on which I started. I know now that other groups

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of people have similar problems. In the March 5th issue of *Time Magazine* there was on the medical page an article entitled "Psychiatrist, Heal Thyself". It concerned an article in the *Canadian Medical Association Journal* written by Dr. Elliot Emanuel of Montreal. Dr. Emanuel suggested that psychiatrists, who tell people how they should face the problems of life, frequently have problems of their own.

"Congresses of psychiatrists themselves", he said, "are not free from tensions, nor are the families of psychiatrists notable for their mental health".

In summing up I should say that public relations, as something that takes place between people is as old as the human race, but that organized public relations is new. It is new, we are walking carefully—we are finding our way. We are interested in people, we are borrowing from the scientists, the philosophers and the humanitarians, we are learning to be patient and we are constantly animated by the thought that in all we do, there is almost always a better way.

I have one final quotation to give you. This impressed me when I first read it, and it impresses me now. It comes from a book written some years ago by a psychiatrist named Dr. James T. Fisher. The title of the book is "A Few Buttons Missing".

Dr. Fisher says this—"If you were to take the sum total of all the authoritative articles ever written by the most qualified or psychologists and psychiatrists on the subject of human relations—and if you were to combine them, and refine them, and cleave out the excess verbiage—and if you were to take the whole of the meat and none of the parsley—and if you were to have these unadulterated bits of pure scientific knowledge concisely expressed by the most capable of living poets, you would have an awkward and incomplete summation of the Sermon on the Mount. And it would suffer immeasurably by comparison".

We have had the Sermon on the Mount for a long time.. We have only had organized public relations for a very short time.

We think we are going in the right direction. We think that what we are doing is in the interests of mankind.

FOR FURTHER READING

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The Budget—Measure of Success

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The orders budget is the basis for all budgeting programmes in industry the author points out. Sales estimates need not be based on guesswork but can be forecast with a fair degree of accuracy by such means as the Sales Force Composite and Statistical methods outlined below.

THERE IS a fundamental difference between the early or governmental type budget and the industrial budget which is important to recognize. The governments first estimate their expenses and then raise taxes or contract loans to cover them, while businesses have to first estimate their possible income or funds available and only then determine their most effective allocation and use in operating the business. Thus public budgets only reflect a policy while industrial budgets actually create the policy.

Budgeting in my book of definitions is not an end within itself, but a means to an end. It defines what is to be done, when it is to be done, who is to do it, and sets a standard for individual contribution. The budget distinguishes between success and presumed success. It prepares the way for leadership and furnishes a way through which it can make itself effective.

There is no single budget programme which will most effectively fit the needs of all businesses. A complete programme is likely to include budgets for orders, cost of orders, inventory increase or decrease, production, direct materials, direct labour, selling expense, advertising expense, profit and loss, capital expenditures and cash. In this paper, I would like to consider primarily the sales or orders budget.

The Orders Budget

In industry, the orders budget is the foundation upon which most over-all budget programmes are built. If the orders budgets are correct, then the budgets of costs and expenditures can be developed on an accurate and effective basis. If they are not correct, they can be more harmful than having no budgets at all.

As a first step, it is important to recognize that the orders budget must be regarded as representing a commitment of the business, just as real as a customer's order. The engineering, manufacturing, purchasing and other departments will be spending actual cash in advance of any specific sales orders. If the orders budget is not correct, it may influence them to spend too much or too little, or even none at all. For several years in our organization, marketing has pressured manufacturing to make shipments in accordance with customers' needs. With marketing helping manufacturing by budgeting for them well in advance, an estimate of customers' needs, manufacturing promises they will have no trouble meeting customers' needs, and manufacturing costs will not be excessive.

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Forecasting The Orders

Although it is quite apparent that guesswork must be kept to a minimum, we still find a crystal ball a most useful device. Instead of using one large crystal ball, however, we use many small ones. This complicates the procedure and increases the number of swami hours required to prepare budgets, but greatly increases their accuracy. In breaking the large crystal ball into many small crystal marbles, we break down the big question of "what will orders of product X be next year" into a whole series of smaller questions—"how will factors A, B, C and D individually affect the current rate of orders for product X". Then try to solve each one separately, using whatever technique is appropriate.

How many of you can go back to your calculations predicting last year's orders and "audit the error"—not just the total difference between your estimate and the actual orders, but a list something like this:

1. One of our departments figured that if general business went up 10%, their industry orders should go up 20% or twice as much. Actually industry orders went up exactly the same as general business. Therefore their budget was. plus \$450,000
2. The forecast 10% increase in general business actually turned out to be 12%. Therefore their budget was minus \$100,000
3. They thought they would do well to maintain their industry position, actually they increased five percentage points. Therefore they were ... minus \$250,000
4. Considering the inventory build up in 1953, they felt "bearish" about 1954 and just to be conservative reduced their estimate by a "safety factor" of minus \$150,000

Therefore the final figure was off only plus \$ 50,000

But if errors had not offset each other, their error could have been plus or minus \$950,000

At first glance, it would appear that there are innumerable approaches to arriving at the orders budget. Experience shows, however, that only a few are commonly used. One that is widely used in portions of our own company, as well as in many others, is the Sales Force Composite.

The Sales Force Composite Method

Here the sales engineer, usually after conferring with his major customers, makes a forecast of what his orders will be for the next year. In the Apparatus area of our business, although there are tens of

THE BUDGET—MEASURE OF SUCCESS

thousands of customers, some 3,000 account for 97% of our orders. This is approximately three major customers per sales engineer on the average; consequently, his forecasting job is not unduly difficult. Oftentimes the forecast is made in consultation with management, but in any event it should be reviewed with management. This gives the manager a chance to evaluate a salesman's reasons for an unusual forecast and to modify any that seem unreasonable.

Salesmen and managers making these forecasts usually like to have a record of past orders in front of them. This has the effect of giving them a base figure to which they can add or subtract, and thus limits their judgment to the determination of the change from past performance. "I have but one lamp by which my feet are guided, and that is the lamp of experience. I know no way of judging of the future but by the past"—Patrick Henry.

After the salesmen have made their individual forecasts, results are accumulated for the local office and then forwarded to the district office where a grand composite forecast is put together. It is our practice to have the sales engineers estimate demand by classes of product (and by major customer) so that the final composite provides a forecast by district, territory and product.

Advantages Cited of the Composite Method

1. Uses specialized knowledge of men closest to the market.
2. Places responsibility for forecast in the hands of those who just produce the results.
3. Gives sales force greater confidence in quotas developed from forecasts.
4. Tends to give results greater stability* and accuracy because of the magnitude of the sample.
5. Lends itself to the easy development of product territory, customer, or salesmen breakdowns.

Disadvantages Cited of the Composite Method

1. Salesmen are poor estimators, being either too optimistic or too pessimistic as conditions warrant.
2. If estimates are used as a basis for setting quotas, salesmen are inclined to understate the demand in order to make the goal easier to achieve.
3. Salesmen are often unaware of broad economic patterns which are shaping future sales and are thus incapable of forecasting trends for extended periods.
4. Method requires an extensive expenditure of time by executives and sales force.

Statistical Methods

The use of statistical methods has become widespread as a supplement to personal judgment in increasing the accuracy of orders

COST AND MANAGEMENT

forecasts. Although statistical budgeting methods have to date shown little improvement over sales force composite and "seat-of-the-pants" budgeting to me—they hold much promise for the future. It was also once true that a horse was better than an automobile. At that time the auto ran with slipping cogs and friction, if at all, but each of its components was susceptible to improvement. Every time some one worked on a better tire, or engine, or body, the whole car and all future cars benefited. A horse is a subject entity. It may be good to start with, but what can be done to improve it? In the Statistical Methods approach, various orders statistical relationships within a company's or industry's economy are observed, measured and projected. The statistical methods most used are *correlation analysis*, *lead-lag relationships*, *trend and cycle projection*, and *mathematical projections*.

Correlation analysis is a method of measuring the relation between two or more factors. For example, one of the helpful pieces of information to the electrical manufacturer is the increased KWH consumption per residential customer. Even though this information is very helpful, it has been difficult to obtain. Analysis indicates that a close correlation exists between disposable income per customer and increase in KWH consumption. Since disposable income is forecast by several qualified sources, it becomes quite a simple matter to forecast increases in KWH consumption/residential customer. (Fig. 1).

When it is possible to forecast sales based on their following along after certain movements of an indicator, a lead-lag relationship is said to exist. For example, the installed generating capacity of the various utilities has been found to increase sharply approximately three years after an increase in peak load and similarly on each decrease. (Fig. 2).

The sales pattern of any company is largely the result of three basic influences—*long term growth trends*, *cyclical business variations*, and *seasonal variations*. If it were not for the irregular chance variations caused by such things as sudden changes in business conditions, strikes, material shortages and competitive activities, the influence of the basic factors would be more evident.

In some industries, the patterns are sufficiently well defined that statistical study can measure the influence of each major force. By estimating the probable trend of each, the various trends and cycles can be extended to derive sales forecasts for future dates. For example, the long term growth trend of Utility power generation is 7.2% per year or doubling in ten years, and a number of electrical manufacturers have been growing at about the same rate.

Seasonal variations in the sales pattern are seldom given the attention they deserve. Even an accurate annual budget can frequently be worse than none at all because it is not accurately divided into proper units. All too frequently a budget is divided by 52 to break

THE BUDGET—MEASURE OF SUCCESS

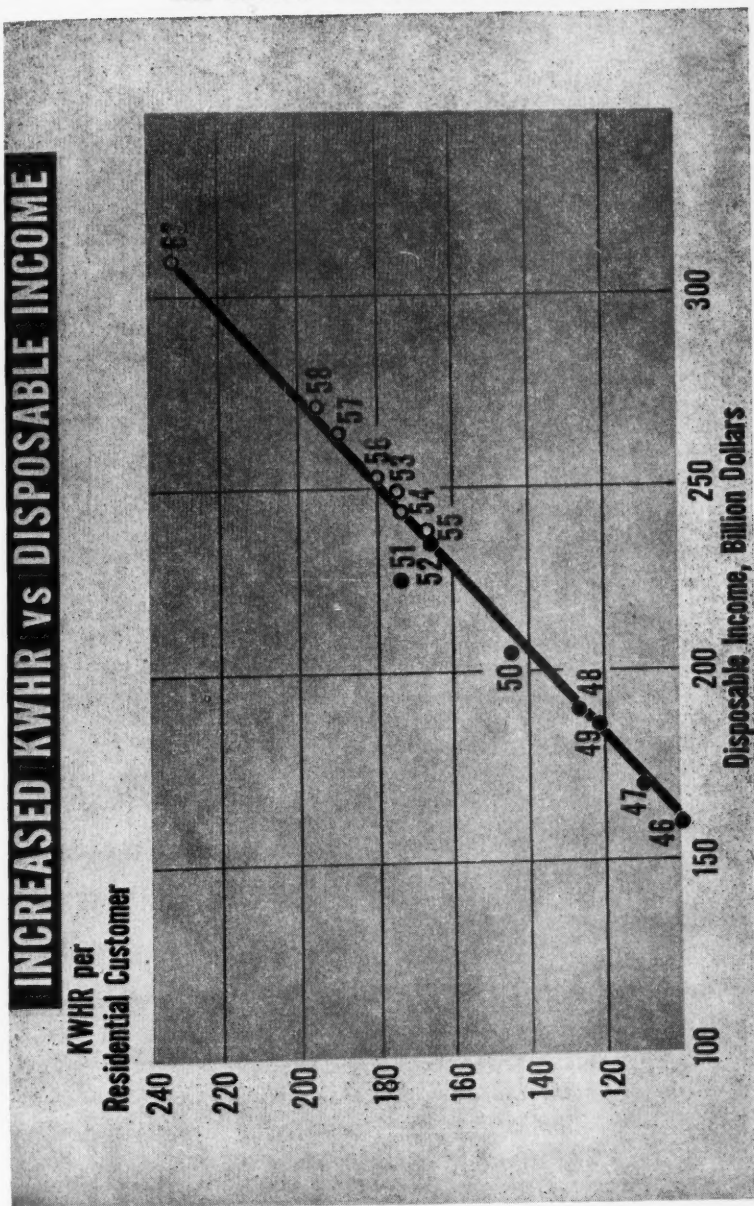


FIG. 1

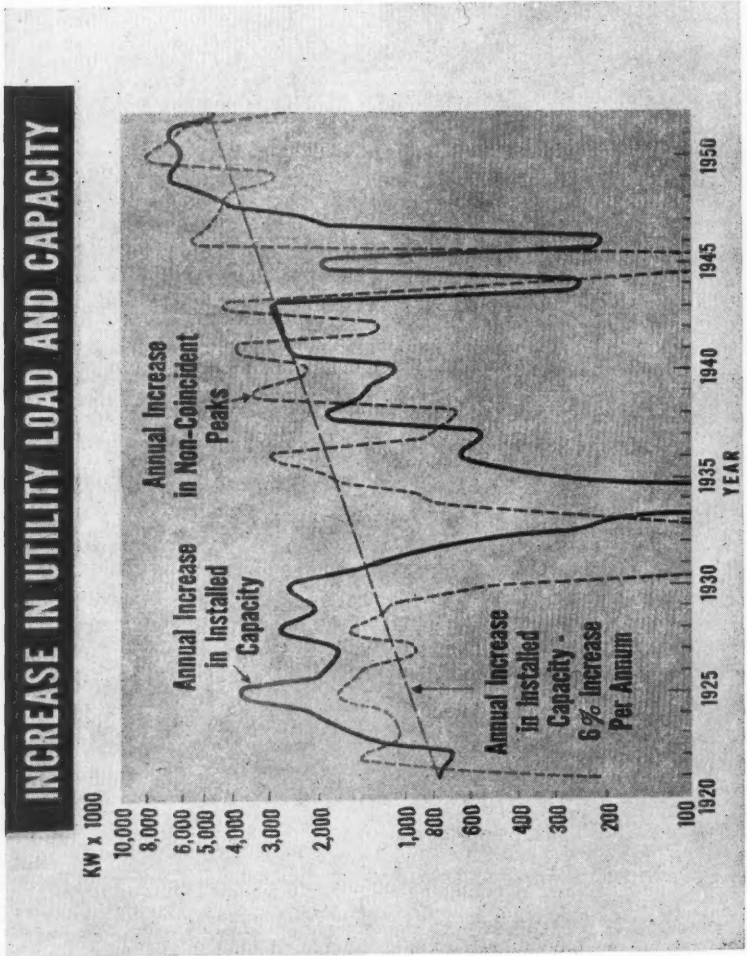


FIG. 2

THE BUDGET—MEASURE OF SUCCESS

it down into weeks or similarly by some other number to divide it into larger or smaller parts on a fiscal calendar basis.

Surprising as it may seem, even the custom-made electrical apparatus has district seasonal patterns which must not be overlooked. If the annual budget is merely divided by 12 to put it on a monthly basis, and January and February are the usual slow months, then VB's turn red, manufacturing slows down their rate of manufacture, the boss man develops fresh ulcers, etc. And when March and April come along with black VB's, then the manufacturing boss man inherits the ulcers.

The average orders per month for one of our departments, taken over a seven-year period, varies from 5% to 10½%. January is normally a 6% instead of 100/12 or 8½% month. Thus in budgeting at 8½% instead of 6%, we are introducing an error of more than 40%. To assist in their forecasting, production scheduling, etc., one of our departments has devised a seasonal chart paper as shown. (Fig. 3).

Statistical analyses are very rapidly coming of age. The most spectacular recent example of this was the 1952 presidential election. A purely mechanical forecast was made by feeding the data into UNIVAC. The experts are still wondering why they didn't believe it.

One of our departments already uses a statistical approach. They have found by study that their sales are: .336 times disposable income (two quarters lead); plus .576 times the wholesale price index; plus .866 times the Non-durable production Index (two quarters lead); plus a constant of 1.516 (all figures in logarithms).

The same statistical technique that yielded this formula also provided the fact that over the 32 quarters since 1945, it had missed the actual industry sales by an average of 3%. (The maximum variation so far has been 7%).

And speaking of errors, or if you prefer reliability in forecasting, it seems to me that this has been a neglected subject. We give management a sheet of paper with our forecasted sales for products A, B, C, D, etc. and we say that to the best of our knowledge and belief these figures represent the best available figures. And this is true.

But what we don't say, although we know it very well, is that the figure for product A is going to be right on the button. It has a good stable history; our experience is such that we're pretty sure we won't be off by more than 5%. On the other hand, product C is a tough one. With the best we can do, we still wouldn't be surprised to miss it by 50%.

You can't blame management for taking both figures at face value—there's nothing to show there is any difference. If there is reason to believe that one or more of the budget figures is little more than a wild

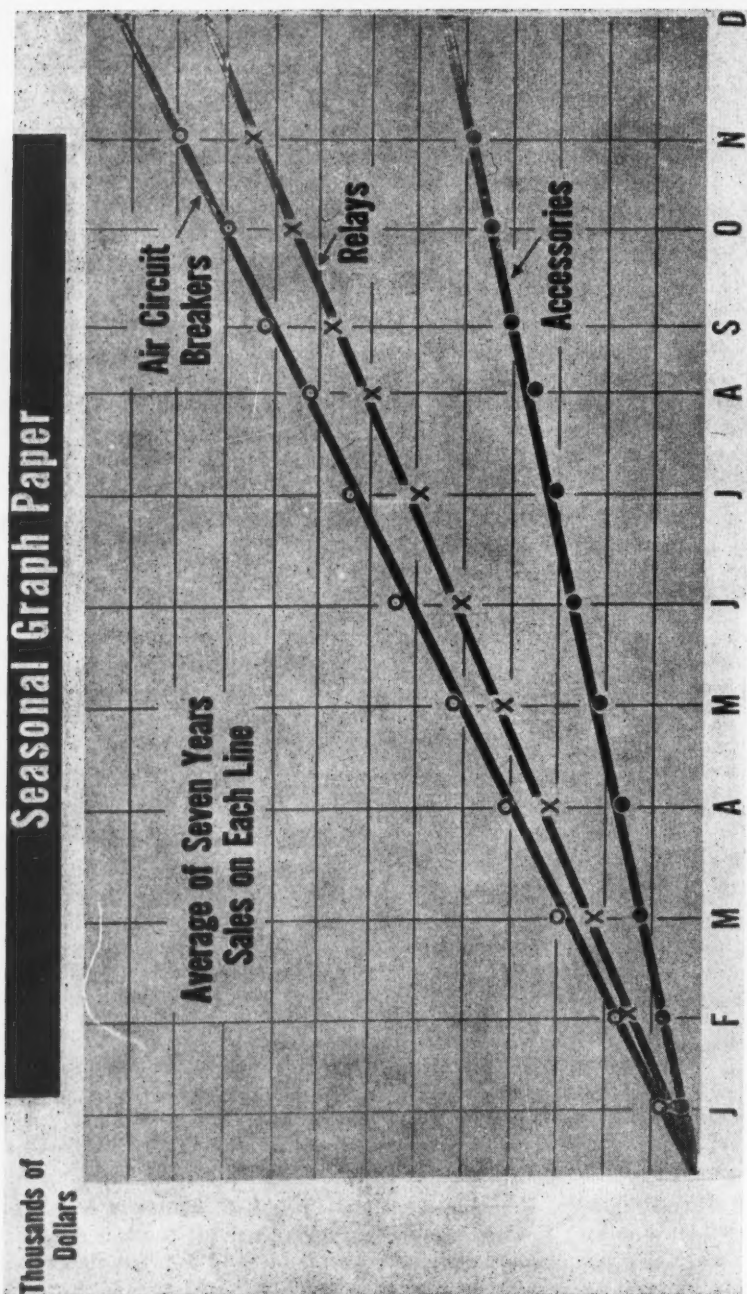


FIG. 3

THE BUDGET—MEASURE OF SUCCESS

guess, why not say so, so that the expense of insuring all other lines against an unlikely margin of error can be avoided.

Whether using the Sales-Force Composite approach or the Statistical approach, or the Jury of Executive opinion approach to budgeting, the Sales Plan is just as important.

Need For A Sales Plan

Last year after budgets were in, one of the product departments announced 31 new products that they planned to bring out almost immediately. Naturally they expected immediate orders whether they were budgeted or not. Another department, after budgets were in, announced that they would have greatly expanded facilities available in a few months almost a year sooner than previously anticipated. If budgets are to be prepared which have any degree of accuracy, they must be preceded by sales plans.

The sales plan is a written report from the sales manager pointing out anticipated changes in product or facilities and desired objectives by industry, customer, district or % of available.

Recorded plans in the hands of all key participants can only lead to

1. Better budgets
2. Better manpower assignments and direction
3. More orders at less cost.

Up to this point, we have been thinking in terms of budgets primarily in terms of this year's operation or next year's. In our dynamic economy, we must also be thinking much further ahead. In the heavy apparatus business which I am in, it takes three-five years to train a sales engineer, about the same period of time to construct and equip a factory. Currently we are making our forecasts by product departments ten years ahead. Each year, as the forecast is repeated, we gain another year's experience and have another opportunity to compensate for previous forecasting errors.

Fig. 4 shows a ten year forecast based on statistical methods. The 95% confidence limits are expected to be conservative.

The long term forecast is also a natural adjunct of the current expense budget. The present order rate might indicate that the sales force should be drastically reduced; however, the long term forecast shows we will need a sales force of the present size again within two years. Since it takes three-five years to train a man, we do not let next year's business levels determine our sales policies; we must also be guided by the long term forecast.

On To Better Budgets

My experience and that of my associates with the accountants in our organization has been very favourable. They are a most valued library of statistics of every variety of orderly reporting on the business.

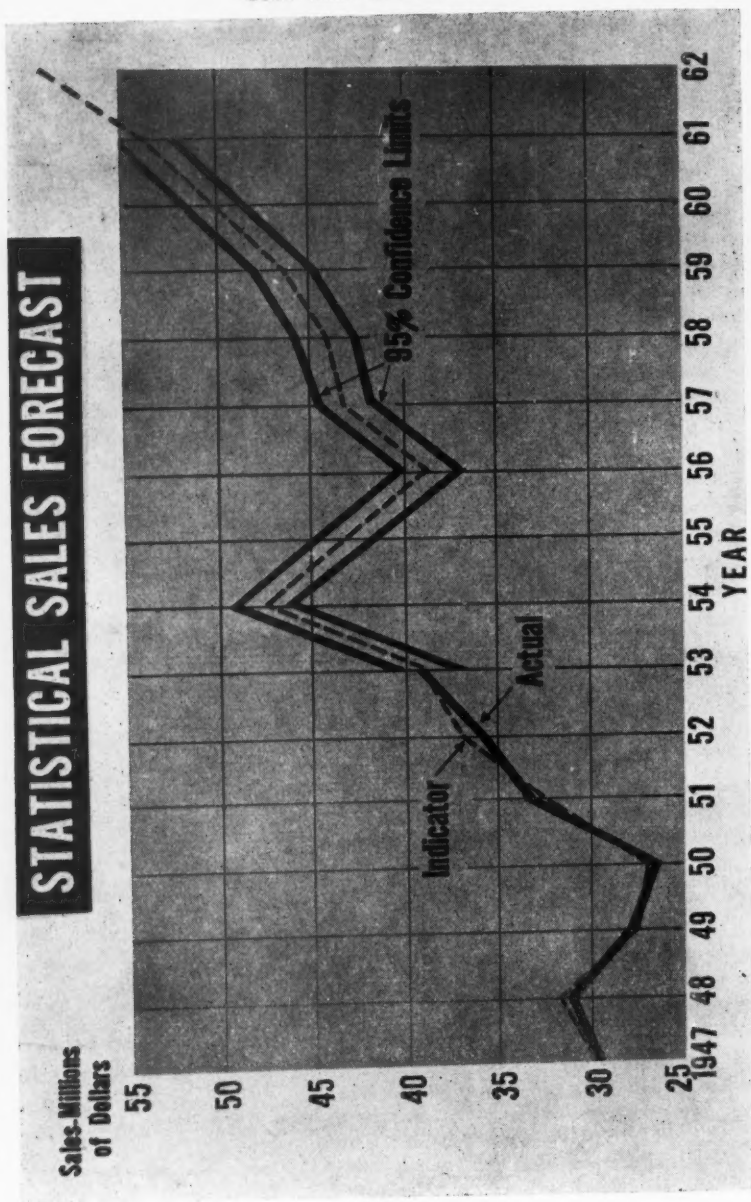


FIG. 4

THE BUDGET — MEASURE OF SUCCESS

As a group, we would like to become better acquainted, for we recognize that their contribution is more than just reporting the over-all success of the business. Oftentimes the job you do, the teamwork between you and the sales manager spells the difference between failure and success. If your budgets are just so-so, why not suggest to the sales manager today that you and he begin now to plan your budgets and budget your plans. Better budgets are not only a key to success but are themselves the measure of success as well.

FOR FURTHER READING

BUDGETING, by J. Brooks Heckert, N.A.C.A. Bulletin, Sept. 1955.

BUDGETING AND LONG RANGE FORECASTING, by Thomas Chambers, Cost and Management, July-Aug. 1955.

THE INSTALLATION OF FLEXIBLE BUDGETARY CONTROL, by J. M. Risk, B.Com., Ph.D., The Canadian Journal of Accountancy, Sept. 1955.

Student Section . . .

EXAMINATIONS, 1955

FUNDAMENTALS OF COST ACCOUNTING

QUESTION III (20 marks)

The management of Able Machine Works Limited, a newly formed company, has signed a contract with the union representing its factory workers whereby time and a half will be paid for all work over 40 hours per week, and double time for Saturday and Sunday work. Management has also approved a Christmas bonus plan, the amount of which will be dependent upon the number of weeks of continuous employment.

A job order cost system is being installed and the question of proper treatment of overtime pay and Christmas bonuses has arisen.

The cost accountant contends that overtime and bonuses paid to productive workers should be charged direct to the job, and that such payments to non-productive workers should be treated as an overhead cost.

The sales manager and the factory superintendent disagree with this view. They argue with this plan because the company accepts a number of special orders on the basis of factory cost plus 20%. Such orders are priced from production order cost sheets. The factory superintendent suggests that overtime and bonuses be treated as overhead costs and thereby spreading such expense over all production for the accounting period, regardless of the actual dates when each job is processed. On the other hand, the sales manager contends that these costs are not factory costs chargeable to regular production, but are the result of general administrative policies and therefore should not be taken up in the factory accounts.

REQUIRED:

The president of the company has asked you to outline your views. State briefly the arguments for and against each of the proposals and indicate the plan you would recommend.

COST AND MANAGEMENT

SOLUTION TO QUESTION III

Cost Accountant's Recommendation

This recommendation is open to serious criticism. Those jobs which happen to be in process during overtime periods, or when the yearly bonus is paid, would be unfairly charged with the total cost of these particular fringe benefits. Thus by being overly zealous in the allocation of costs, the cost accountant overlooks the fact that overtime and bonus arrangements reflect management's acceptance of these plans as part of the cost of maintaining an efficient and contented working force. Only in one circumstance could the recommendations be appropriated; when production is not performed regularly during overtime periods. In this instance, there is justification for the practice, for the acceptance of orders requiring processing on an overtime basis will require individual consideration. To confirm the correctness of such decisions, it is essential that the revenue of such jobs be matched against their total cost, including the appropriate overtime charges.

Recommendation of the Factory Superintendent

This recommendation appears to provide a more equitable result. It recognizes that regular overtime and payment of bonuses are deliberate managerial choices which have been made for the purpose of general efficiency. Overtime for instance, may be regarded in some circumstances as a more efficient method of production than hiring, training, and equipping additional workers. Similarly, the Christmas bonus is paid to employees of continuous employment in order to stimulate loyalty and goodwill to the company. Thus, although these payments are legitimate production costs, since they originate from overall employment and personnel policies, all production orders should bear their apportionate share of these costs.

Recommendation of the Sales Manager

This recommendation is hard to justify. Despite the fact that employment and personnel policies are administrative decisions, the cost arising from these decisions relate to production and should be included in the cost of goods sold and inventory values. The only exception would be in the instance when the Christmas bonus was actually a profit sharing arrangement, whereby the employees were given a share of the year's profits after net profits from operatives had been determined.

